IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of: § Filed: April 14, 2004
  Richard D. Dettinger et al. §
 § Group Art Unit: 2176
Serial No.: 10/824,064 §
 § Examiner: Nathan Hillery
Confirmation No.: 6073 §

For: SIMPLIFIED AND OPTIMIZED PROCESS FOR APPLICATION USER INTERFACE TESTING AND VALIDATION

MAIL STOP APPEAL BRIEF - PATENTS
Commissioner for Patents
P.O. Box 1450
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January 14, 2008   /Mimi Corona/_____
Date   Mimi Corona

Dear Sir:

APPEAL BRIEF – RESUBMISSION IN RESPONSE TO NOTICE OF NON-COMPLIANT APPEAL BRIEF DATED DECEMBER 13, 2007

Applicants submit this Appeal Brief to the Board of Patent Appeals and Interferences on appeal from the decision of the Examiner of Group Art Unit 2176 dated March 21, 2007, finally rejecting claims 1-59. The final rejection of claims 1-59 is appealed. This Appeal Brief is believed to be timely since it is transmitted by the due date of January 14, 2008, as set by the filing of a Notice of Appeal on December 13, 2007.

Please charge the fee of $500.00 for filing this brief to:

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TABLE OF CONTENTS

Real Party in Interest

The present application has been assigned to International Business Machines Corporation, Armonk, New York.

Related Appeals and Interferences

Applicant asserts that no other appeals or interferences are known to the Applicant, the Applicant's legal representative, or assignee which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

Status of Claims

Claims 1-59 are pending in the application. Claims 1-59 were originally presented in the application. Claims 1-59 stand finally rejected as discussed below. The final rejections of claims 1-59 are appealed. The pending claims are shown in the attached Claims Appendix.

Status of Amendments

All claim amendments have been entered by the Examiner. No amendments to the claims were proposed after the final rejection.

Summary of Claimed Subject Matter

Claimed embodiments include methods (see claims 1-36) and computer readable storage mediums (see claims 37-46) and computer apparatus (see claims 47-59) directed to testing and validating document content.

A. CLAIM 1 - INDEPENDENT

A method of testing content (paragraph 0021, line 1), comprising: parsing, by a parser (Fig. 1, 122), two or more documents in tandem on an element-by-element basis (paragraph 0035, lines 10-11; paragraph 0042, lines 13-15), whereby the elements of each of the documents are sequentially parsed (paragraph 0035, lines 11-12; paragraph 0006, lines 2-4); upon parsing each of the respective sequential elements in a first document of the two or more documents and each of the other documents, comparing the respective parsed elements to one another (*e.g.* paragraph 0035, lines 14-17; paragraph 0006, lines 4-6; paragraph 43, lines 2-7; paragraph 44, lines 2-4); and on the basis of the comparison, determining whether the documents are at least equivalent (paragraph 0006, lines 6-7).

B. CLAIM 14 - INDEPENDENT

A method of testing and validating user interface content (Fig. 3), comprising: submitting a request to an application (paragraph 0006, lines 6-7); in response to the request, receiving a response document from the application (paragraph 0042, lines 4-5; paragraph 0006, lines 7-8; Fig. 3, 302); retrieving from storage a control document previously returned from the application in response to the request (paragraph 0042, lines 5-7; paragraph 0006, lines 8-10; Fig. 3, 304); sequentially determining each element of the response document and the control document (paragraph 44, lines 4-6 and 14-17; paragraph 0007, lines 1-3); for at least some of the respective sequentially determined elements from the respective documents, comparing the elements to one another (paragraph 0007, lines 3-5); and on the basis of the comparison, determining

whether the elements are equivalent (paragraph 0007, lines 4-5; paragraph 46, lines 17-19).

C.   CLAIM 31 - INDEPENDENT

A method for testing and validating content in a user interface (Fig. 3), comprising:

a) performing a first testing and validation technique, comprising (paragraph 0008, lines 1-2): parsing a first document with a first parser (paragraph 0049, lines 3-4; Fig. 8, 802; paragraph 0008, lines 1-3); parsing a second document with the first parser (paragraph 0008, lines 1-3; Fig. 8, 802); comparing the parsed first document to the parsed second document (paragraph 0008, lines 4-5); on the basis of the comparison, determining whether the documents are equivalent (paragraph 0008, lines 4-5; paragraph 0049, lines 11-13); and b) performing a second testing and validation technique, comprising (paragraph 0008, line 5): parsing the second document with a second parser (paragraph 0008, lines 5-6; Fig. 8, 802); applying one or more test expressions to the parsed second document (paragraph 0008, lines 6-7; Fig. 8, 812); and determining whether the one or more test expressions are satisfied (paragraph 0008, lines 7-8; Fig. 8, 814).

D.   CLAIM 37 - INDEPENDENT

A computer readable storage medium containing a program which, when executed, performs an operation for testing content, comprising: parsing a first document being well-formed and having identifiable structures (paragraph 0009, lines 3-4); parsing a second document being well-formed and having identifiable structures (paragraph 0009, lines 3-4); comparing the parsed first document to the parsed second document (paragraph 0009, line 4); and on the basis of the comparison, determining whether the documents are at least structurally equivalent (paragraph 0009, line 5).

E.   CLAIM 47 - INDEPENDENT

A computer (Fig. 1, 104; paragraph 0029, lines 3-4), comprising at least one processor and further comprising: a user interface testing tool (Fig. 1, 112) comprising

at least a first parser (Fig. 1, 122) and a comparator (Fig. 1, 124), and operable to perform at least a first testing technique in which the tool is configured to (paragraph 0010, lines 1-3): retrieve a first document from storage, the first document having been previously returned from an application in response to user input (paragraph 0010, lines 4-5; paragraph 0042, lines 5-7); request and receive a second document from the application during a current session in which the application is being accessed by the user interface testing tool (paragraph 0010, lines 5-7); parse the first document using the first parser (paragraph 0010, lines 7-9); parse the second document using the first parser (paragraph 0010, lines 7-9); compare, by the comparator, the parsed first document to the parsed second document (paragraph 0010, lines 8-9); and on the basis of the comparison, determine at least whether the documents are at least structurally equivalent (paragraph 0010, lines 9-11; paragraph 0037, lines 2-3).

Grounds of Rejection to be Reviewed on Appeal

1.   Rejection of claims 1-59 under 35 U.S.C. 103(a) as being unpatentable over *Brook* (U.S. Patent Application Publication, published March 28, 2002) [hereinafter "*Brook*"].

ARGUMENTS

1.   Rejection of claims 1-59 under 35 U.S.C. 103(a) as being unpatentable over *Brook*.

The Applicable Standard for a Prima Facie case of Obviousness

The Examiner bears the initial burden of establishing a *prima facie* case of obviousness. *See* MPEP § 2142. To establish a *prima facie* case of obviousness three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the reference or to combine the reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *See* MPEP § 2143. The present rejection fails to establish at least the third criterion.

The References

The invention in *Brook* relates to parsing a markup language document. See paragraph 0002. Specifically, *Brook* discloses methods, computer programs, and computer program products for checking and verifying the correct syntactic placement of elements in a document. See paragraph 0002 and Figs. 3(a) – 3(c). To this end, *Brook* uses a validation reference document (VRD) to compare to a second document in order to ensure the second document has a valid syntax. See paragraphs 0213 – 0217. Therefore, *Brook* compares a document against a syntax document (*i.e.* a VRD), and does not compare two documents to determine whether the documents are at least equivalent.

The Examiner's Argument

The Examiner rejects claim 1 on the basis that *Brook* teaches "parsing and comparison for purposes of comparison and validation, which is determining whether the documents are at least equivalent" at paragraphs 0002 and 0206 – 0225. See Final

Office Action, page 3. Additionally, the Examiner argues that *Brook* teaches "parsing two documents element by element and comparing the documents for validation" at paragraphs 0060 – 0069. Id. The Examiner also relies on *Brook* to teach "use of the invention as an 'event-based parser' which parses a document element by element, rather than in its entirety first." Id. As a result, the Examiner claims "it would be obvious to one of ordinary skill in the art at the time of the invention to read *Brook* as teaching that one could parse two or more documents for validation in an event-type process whereby the two documents could be understood as being sequentially parsed, or 'in tandem'." Id. at 4. Further, the Examiner contends that "the validation checking step compares the mark-up document structural representation generated in the step to the structural representation of the DTD/XML Schema generated in the step, to verify correct syntactic placement of syntactic elements in the markup document." See Advisory Action, page 2.

The Examiner rejects claims 2-59 on similar grounds.

Applicants' Response to the Examiner's Argument

Regarding claims 1-59, *Brook* does not disclose "each and every element as set forth in the claim[s]." Specifically, *Brook* does not disclose "parsing, by a parser, two or more documents in tandem on an element-by-element basis, whereby the elements of each of the documents are sequentially parsed; upon parsing each of the respective sequential elements in a first document of the two or more documents and each of the other documents, comparing the respective parsed elements to one another; and on the basis of the comparison, determining whether the documents are at least equivalent".

The Examiner points to *Brook* paragraphs 0206 – 0225 as support for the notion that *Brook* teaches comparing respective parsed elements of two documents to determine whether the documents are at least equivalent. Specifically, the Examiner points to *Brook* paragraph 0224. However, the cited passage is in fact directed to using referencing or including hash algorithms for optimization and matching purposes. *Brook* teaches referencing as including a reference in an input markup document that can be used as a signal to select the proper hash algorithm for that document. The example *Brook* gives for matching purposes is comparing a document with a reference in it to a

type of validation reference document (VRD), specifically a document type definition (DTD) document, when the VRD document has already been hashed. This example illustrates how *Brook* <u>does not</u> disclose comparing two documents to determine whether the documents are at least equivalent. Instead, in paragraph [0224], *Brook* is comparing a first document with a reference in it to a VDR document <u>to determine the first document's structural validity, not it's equivalence to</u> the VDR document.

The Examiner maintains that because *Brook* compares a document to another document, which is specifically a type of validation reference document, *Brook* thereby necessarily is comparing two documents to determine whether the documents are at least equivalent. However, Applicants' respectfully submit that the validation reference document of *Brook* has been mischaracterized by the Examiner. A VRD defines validity constraints for other documents. *Brook* is comparing a document to the VRD to determine if the document has proper syntax and well-formedness, not whether the document and the VRD are equivalent. This would be akin to suggesting that referring to a book on grammar to determine the grammatical accuracy of, say, a novel, is a comparison of equivalence between the grammar book and the novel. Clearly, this is not the case. Thus, comparing a VRD document to another document in *Brook* is distinct from comparing parsed elements of any two or more documents to each other. *Brook* simply does not disclose comparing two documents to determine whether the documents are at least equivalent.

Further, the Examiner suggests that the validation checking of *Brook* meets the claimed comparing because *Brook* teaches that the validation checking step compares the mark-up document structural representation generated in the step to the structural representation of the DTD/XML Schema generated in the step, to verify correct syntactic placement of syntactic elements in the markup document. Again, this is directed to validating a document against a VRD, here the representation of the DTD/XML Schema, to check the proper syntax and structure of a document, not to comparing two documents to determine whether the documents are at least equivalent.

Therefore, the claims are believed to be allowable, and allowance of the claims is respectfully requested.

CONCLUSION

The Examiner errs in finding that claims 1-59 are unpatentable over *Brook* under 35 U.S.C. § 103(a).

Withdrawal of the rejection and allowance of all claims is respectfully requested.

Respectfully submitted, and
S-signed pursuant to 37 CFR 1.4,

/Gero G. McClellan, Reg. No. 44,227/

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Gero G. McClellan
Registration No. 44,227
Patterson & Sheridan, L.L.P.
3040 Post Oak Blvd., Suite 1500
Houston, TX 77056
Telephone: (713) 623-4844
Facsimile: (713) 623-4846
Attorney for Appellants

CLAIMS APPENDIX

1.   (Original)   A method of testing content, comprising:

parsing, by a parser, two or more documents in tandem on an element-by-element basis, whereby the elements of each of the documents are sequentially parsed;

upon parsing each of the respective sequential elements in a first document of the two or more documents and each of the other documents, comparing the respective parsed elements to one another; and

on the basis of the comparison, determining whether the documents are at least equivalent.

2.   (Original)   The method of claim 1, wherein each of the other documents is a current response from an application responding to a submitted request and the first document is a control document retrieved from storage and previously returned from the application in response to the request.

3.   (Original)   The method of claim 1, wherein the parser is a SAX parser.

4.   (Original)   The method of claim 1, further comprising, upon determining that the documents are not equivalent, issuing a user warning.

5.   (Original)   The method of claim 1, further comprising, disregarding, for purposes of the comparing, elements of at least one of the documents identified by predefined attributes identifiable by the parser.

6.   (Original)   The method of claim 1, wherein determining whether the documents are at least equivalent comprises determining whether the documents are structurally equivalent and wherein comparing the parsed documents comprises:

comparing sequentially occurring non-character elements in the respective documents; and

disregarding character elements; and

wherein determining whether the documents are equivalent comprises determining whether the non-character elements are the same.

7.   (Original)   The method of claim 1, wherein determining whether the documents are at least equivalent comprises determining whether the documents are at least one of structurally equivalent and content equivalent.

8.   (Original)   The method of claim 7, wherein the documents are foreign-language counterparts of one another; and wherein comparing the parsed documents comprises comparing sequentially occurring elements in the respective documents; and wherein determining whether the documents are structurally equivalent comprises determining whether the non-character elements are the same; and further comprising determining whether the documents are content equivalent by determining whether the character elements are different.

9.   (Original)   The method of claim 8, upon determining that the documents are content equivalent, issuing a warning of a possible mistranslation of content in at least one of the documents.

10.   (Original)   The method of claim 1, wherein the documents are XML documents containing XHTML.

11.   (Original)   The method of claim 1, wherein the documents are well-formed documents having well-defined content structures identifiable by a parser parsing the documents.

12.   (Original)   The method of claim 1, further comprising:
        applying one or more test expressions to at least one of the documents; and
        determining whether the one or more test expressions are satisfied.

13.   (Original)   The method of claim 12, wherein the one or more test expressions are XPATH queries.

14.   (Original)   A method of testing and validating user interface content, comprising:

submitting a request to an application;

in response to the request, receiving a response document from the application;

retrieving from storage a control document previously returned from the application in response to the request;

sequentially determining each element of the response document and the control document;

for at least some of the respective sequentially determined elements from the respective documents, comparing the elements to one another; and

on the basis of the comparison, determining whether the elements are equivalent.

15.   (Original)   The method of claim 14, wherein the documents contain XHTML and the elements are nodes of XHTML content of the respective documents.

16.   (Original)   The method of claim 14, wherein at least two response documents are returned in response to the request and wherein the steps of sequentially determining each element, comparing the elements and determining whether the elements are equivalent is performed are performed for all of the documents.

17.   (Original)   The method of claim 14, wherein comparing the elements to each other comprises:

comparing sequentially occurring non-character elements in the respective documents; and

disregarding character elements.

18. (Original) The method of claim 14, further comprising, for at least some of the respective sequentially determined elements from respective documents, disregarding the elements.

19. (Original) The method of claim 14, wherein sequentially determining the elements of the documents comprises parsing the respective documents and wherein the documents are well-formed documents having well-defined elements identifiable by a parser parsing the documents.

20. (Original) The method of claim 19, wherein the parser is a SAX parser.

21. (Original) The method of claim 14, wherein the documents are foreign-language counterparts of one another and further comprising:

upon determining that the documents are equivalent, issuing a warning of a possible mistranslation in at least one of the documents.

22. (Original) The method of claim 14, wherein a first document is a control document previously returned from an application in response to a user action, and then captured, stored and subsequently retrieved from storage to determine a first structural element for comparison.

23. (Original) The method of claim 22, wherein a second document is a live document currently returned from the application in response to the user action during a session in which the application is being accessed.

24. (Original) The method of claim 14, wherein the documents are XML documents containing XHTML.

25. (Original) The method of claim 14, further comprising:

applying a test expression to the documents, the test expression being configured to select specific portions of the documents; and

comparing the specific portions for equivalence.

26.   (Original)   The method of claim 25, wherein sequentially determining the elements comprises parsing the respective documents.

27.   (Original)   The method of claim 14, further comprising:

applying one or more test expressions to at least one of the documents; and

determining whether the one or more test expressions are satisfied.

28.   (Original)   The method of claim 27, wherein the one or more test expressions are XPATH queries.

29.   (Original)   The method of claim 27, wherein at least one test expression is configured to determine a presence of a specific value of a structural element of the second document.

30.   (Original)   The method of claim 27, wherein sequentially determining the elements comprises parsing the respective documents.

31.   (Original)   A method for testing and validating content in a user interface, comprising:

a) performing a first testing and validation technique, comprising:

parsing a first document with a first parser;

parsing a second document with the first parser;

comparing the parsed first document to the parsed second document;

on the basis of the comparison, determining whether the documents are

equivalent; and

b) performing a second testing and validation technique, comprising:

parsing the second document with a second parser;

applying one or more test expressions to the parsed second document; and

determining whether the one or more test expressions are satisfied.

32. (Original) The method of claim 31, wherein determining whether the documents are equivalent comprises determining whether the documents are structurally equivalent.

33. (Original) The method of claim 31, wherein determining whether the documents are equivalent comprises determining whether selected portions of the documents are equivalent in content.

34. (Original) The method of claim 31, wherein the first parser is at SAX parser.

35. (Original) The method of claim 31, wherein the first parser is at SAX parser and the second parser is a DOM parser.

36. (Original) The method of claim 31, wherein the first parser is at SAX parser, the second parser is a DOM parser and the one or more test expressions are XPATH queries.

37. (Previously Presented) A computer readable storage medium containing a program which, when executed, performs an operation for testing content, comprising:
    parsing a first document being well-formed and having identifiable structures;
    parsing a second document being well-formed and having identifiable structures;
    comparing the parsed first document to the parsed second document; and
    on the basis of the comparison, determining whether the documents are at least structurally equivalent.

38. (Previously Presented) The computer readable storage medium of claim 37, wherein the parsing is done by a SAX parser.

39.   (Previously Presented)   The computer readable storage medium of claim 37, further comprising, upon determining that the documents are not structurally equivalent, issuing a user warning.

40.   (Previously Presented)   The computer readable storage medium of claim 37, further comprising determining whether the documents are content equivalent.

41.   (Previously Presented)   The computer readable storage medium of claim 37, wherein comparing the parsed documents comprises:

      comparing sequentially occurring non-character elements in the respective documents; and

      disregarding character elements; and

      wherein determining whether the documents are structurally equivalent comprises determining whether the non-character elements are the same.

42.   (Previously Presented)   The computer readable storage medium of claim 37, wherein the documents are foreign-language counterparts of one another and wherein comparing the parsed documents comprises:

      comparing sequentially occurring elements in the respective documents; and

      wherein determining whether the documents are structurally equivalent comprises determining whether the non-character elements are the same; and further comprising determining whether the documents are content equivalent by determining whether the character elements are different.

43.   (Previously Presented)   The computer readable storage medium of claim 42, upon determining that the documents are content equivalent, issuing a warning of a possible mistranslation of content in at least one of the documents.

44.   (Previously Presented)   The computer readable storage medium of claim 37, wherein the documents are XML documents containing XHTML.

45.   (Previously Presented)   The computer readable storage medium of claim 37, further comprising:

applying one or more test expressions to at least one of the documents; and

determining whether the one or more test expressions are satisfied.

46.   (Previously Presented)   The computer readable storage medium of claim 45, wherein the one or more test expressions are XPATH queries.

47.   (Previously Presented)   A computer, comprising at least one processor and further comprising:

a user interface testing tool comprising at least a first parser and a comparator, and operable to perform at least a first testing technique in which the tool is configured to:

retrieve a first document from storage, the first document having been previously returned from an application in response to user input;

request and receive a second document from the application during a current session in which the application is being accessed by the user interface testing tool;

parse the first document using the first parser;

parse the second document using the first parser;

compare, by the comparator, the parsed first document to the parsed second document; and

on the basis of the comparison, determine at least whether the documents are at least structurally equivalent.

48.   (Original)   The computer of claim 47, wherein the documents are well-formed and have identifiable structures.

49.   (Original)   The computer of claim 47, wherein the parsing is done by a SAX parser.

50.   (Original)   The computer of claim 47, wherein the user interface testing tool is further configured to issue a user warning upon determining that the documents are not structurally equivalent.

51.   (Original)   The computer of claim 47, wherein the user interface testing tool is further configured to determine whether the documents are content equivalent.

52.   (Original)   The computer of claim 47, wherein the user interface testing tool compares the parsed documents by:
    comparing sequentially occurring non-character elements in the respective documents; and
        disregarding character elements; and
        wherein the user interface testing tool determines whether the documents are structurally equivalent by determining whether the non-character elements are the same.

53.   (Original)   The computer of claim 47, wherein the documents are foreign-language counterparts of one another and wherein the user interface testing tool compares the parsed documents by:
        comparing sequentially occurring elements in the respective documents; and
        wherein the user interface testing tool determines whether the documents are structurally equivalent by determining whether the non-character elements are the same; and further determines whether the documents are content equivalent by determining whether the character elements are different.

54.   (Original)   The computer of claim 53, wherein the user interface testing tool is further configured to issue a warning of a possible mistranslation of content in at least one of the documents upon determining that the documents are content equivalent.

55.   (Original)   The computer of claim 47, wherein the documents are XML documents containing XHTML.

56.   (Original)   The computer of claim 47, wherein the documents are well-formed documents having well-defined content structures identifiable by the first parser.

57.   (Original)   The computer of claim 47, further comprising:
applying one or more test expressions to at least one of the documents; and
determining whether the one or more test expressions are satisfied.

58.   (Original)   The computer of claim 57, wherein the one or more test expressions are XPATH queries.

59.   (Original)   The computer of claim 47, further comprising:
parsing the first and second documents with a second parser;
applying one or more test expressions to at least one of the documents parsed by the second parser; and
determining whether the one or more test expressions are satisfied.

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.